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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/913,893	09/21/2001	Jarmo Makinen	4925-135PUS	6005

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EXAMINER	
HAN, CLEMENCE S	

ART UNIT	PAPER NUMBER
2668	

DATE MAILED: 10/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/913,893	MAKINEN, JARMO	
	Examiner	Art Unit	
	Clemence Han	2668	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 October 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claim 1-4 are rejected under 35 U.S.C. 102(e) as being anticipated by Lenzo et al. (US 6,587,444).

Regarding to claim 1, Lenzo teaches a data transmission method of a radio link system between a central station and at least one substation comprising the steps of: transmitting a time division multiplex signal (upper frame in Figure 4B) at a first frequency (f_d) from the central station B40; and receiving at the central station B40 signals of said at least one substation M40 at a second frequency (f_u), said second frequency (f_u) being a different frequency that said first frequency (f_d) (Column 5 Line 55-56) and said signals of said at least one substation at said second frequency forming a time division multiple access signal (bottom frame in Figure 4B); wherein each of said at least one substation receives, within an initial time period (one data frame in Figure 4B) having time slots, at said first frequency during certain first time periods having one or more time slots and corresponding to a specific substation; wherein said specific substation transmits, within said initial time period, at said second frequency during certain second time periods

having one or more time slots corresponding to said specific substation such that said first time periods are different time periods than said second time periods (Column 6 Line 8-12, also see Column 5 Line 67 - Column 6 Line 3); and wherein said initial time period (one data frame in Figure 4B) comprises timeslots in which the specific substation only receives at said first frequency (f_d in Figure 4A) from said central station (t_1 in Figure 4A) and only transmits at said second frequency (f_u in Figure 4A) to said central station ($t_1 + \Delta T$ in Figure 4A).

Regarding to claim 2, Lenzo teaches the central station controls the time periods used for transmission and reception by the substations (Column 7 Line 45-55).

Regarding to claim 3, Lenzo teaches a radio link system, comprising: a central station B40 comprising means for discriminating reception signals from transmission signals on basis of frequency (Column 5 Line 55-56, Figure 4A); and at least one substation M40; wherein the central station B40 is configured so as to transmit a time division multiplex signal (upper frame in Figure 4B) at a first frequency (f_d) and receive a time division multiplex access signals (bottom frame in Figure 4B) at a second frequency (f_u); wherein the at least one substation is configured so as to receive, within an initial time period constituted of time slots, at said first frequency during certain first time periods having one or more time

slots and corresponding to a specific substation and said specific substation is arranged to transmit, within said initial time period, at said second frequency during certain second time periods having one or more time slots and corresponding to said specific substation such that said first and second time periods are different time periods and signals transmitted by said at least one substation at said second frequency are arranged to form said time division multiplex access signal (Column 6 Line 8-12, also see Column 5 Line 67 - Column 6 Line 3); and wherein said initial time period (one data frame in Figure 4B) comprises timeslots in which the specific substation only receives at said first frequency (f_d in Figure 4A) from said central station (t_1 in Figure 4A) and only transmits at said second frequency (f_u in Figure 4A) to said central station ($t_1 + \Delta T$ in Figure 4A).

Regarding to claim 4, Lenzo teaches the central station is configured to select said first and second time periods(Column 7 Line 45-55).

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claim 5-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lenzo et al..

Regarding to claim 5-9, Lenzo teaches a wireless communication system 100 (Figure 1). Lenzo, however, does not explicitly teach a specific system. A GSM mobile communication system, a UMTS mobile communication system, a broadband data transmission system, a LMDS system and a HiperAccess system are all well known in the art wireless communication system. It would have been obvious to one skilled in the art to modify Lenzo to be used in a specific system as a design choice.

5. Claim 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lenzo et al. in view of Papadopoulos et al. (US 5,594,720).

Regarding to claim 10, Lenzo teaches a data transmission method of a radio link system between a central station and at least one substation comprising the steps of: transmitting a time division multiplex signal (upper frame in Figure 4B) at a first frequency (f_d) from the central station B40; and receiving at the central station B40 signals of said at least one substation M40 at a second frequency (f_u), said second frequency (f_u) being a different frequency that said first frequency (f_d) (Column 5 Line 55-56) and said signals of said at least one substation at said second frequency forming a time division multiple access signal (bottom frame in Figure 4B); wherein each of said at least one substation receives, within an initial time period (one data frame in Figure 4B) having time slots, at said first frequency

during certain first time periods having one or more time slots and corresponding to a specific substation; wherein said specific substation transmits, within said initial time period, at said second frequency during certain second time periods having one or more time slots corresponding to said specific substation such that said first time periods are different time periods than said second time periods (Column 6 Line 8-12, also see Column 5 Line 67 - Column 6 Line 3); and wherein said initial time period (one data frame in Figure 4B) comprises timeslots in which the specific substation only receives at said first frequency (f_d in Figure 4A) from said central station (t_1 in Figure 4A) and only transmits at said second frequency (f_u in Figure 4A) to said central station ($t_1 + \Delta T$ in Figure 4A). Lenzo, however, does not teach uplink and downlink time slots allocated according to traffic needs. Papadopoulos teaches uplink and downlink time slots allocated according to traffic needs (Column 8 Line 3-5). It would have been obvious to one skilled in the art to modify Lenzo to allocate uplink and downlink time slots according to traffic needs as taught by Papadopoulos in order to improve capacity (Column 16 Line 1-3).

Regarding to claim 11, Lenzo teaches a radio link system, comprising: a central station B40 comprising means for discriminating reception signals from transmission signals on basis of frequency (Column 5 Line 55-56, Figure 4A); and at least one substation M40; wherein the central station B40 is configured so as to

transmit a time division multiplex signal (upper frame in Figure 4B) at a first frequency (f_d) and receive a time division multiplex access signals (bottom frame in Figure 4B) at a second frequency (f_u); wherein the at least one substation is configured so as to receive, within an initial time period constituted of time slots, at said first frequency during certain first time periods having one or more time slots and corresponding to a specific substation and said specific substation is arranged to transmit, within said initial time period, at said second frequency during certain second time periods having one or more time slots and corresponding to said specific substation such that said first and second time periods are different time periods and signals transmitted by said at least one substation at said second frequency are arranged to form said time division multiplex access signal (Column 6 Line 8-12, also see Column 5 Line 67 - Column 6 Line 3); and wherein said initial time period (one data frame in Figure 4B) comprises timeslots in which the specific substation only receives at said first frequency (f_d in Figure 4A) from said central station (t_1 in Figure 4A) and only transmits at said second frequency (f_u in Figure 4A) to said central station ($t_1 + \Delta T$ in Figure 4A). Lenzo, however, does not teach uplink and downlink time slots allocated according to traffic needs. Papadopoulos teaches uplink and downlink time slots allocated according to traffic needs (Column 8 Line 3-5). It would have

been obvious to one skilled in the art to modify Lenzo to allocate uplink and downlink time slots according to traffic needs as taught by Papadopoulos in order to improve capacity (Column 16 Line 1-3).

Response to Arguments

6. Applicant's arguments filed on October 17, 2005 have been fully considered but they are not persuasive.

In page 5-6, the applicant argues that Lenzo does not teach the newly added limitations of the independent claim 1 and 3. As shown in the 102(e) rejections above, Lenzo teaches those limitation.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents are cited to further show the state of the art with respect to the invention in general.

U.S. Patent 6,130,886 to Ketseoglou et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Clemence Han whose telephone number is (571) 272-3158. The examiner can normally be reached on Monday-Thursday 7 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on (571) 272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C. H.

Clemence Han
Examiner
Art Unit 2668

STEVEN NGUYEN
PRIMARY EXAMINER